

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 10, 26, 35, and 74 have been canceled. Claims 1-9, 11-25, 27-29, 31-34, 36-38, 40-41, 43-70, and 72 are pending, of which claims 1, 8-9, 11-12, 29, 38, 41, 45-48, 52-54, 56, and 70 have been amended.

35 U.S.C. §103 Claim Rejections

A. Claims 1-4, 7, 12-14, 19-20, 23, 28-29, 37-38, 40-41, 43-44, 49-51, 55-57, 59-60, 65, 69-70, 72, and 74 are rejected under 35 U.S.C. §103(a) for obviousness over U.S. Patent No. 6,219,716 to Kumaki (hereinafter, "Kumaki") in view of U.S. Patent No. 6,253,264 to Sebastian (hereinafter, "Sebastian"), and further in view of Japanese Patent No. JP 10283280A to Kawakita (hereinafter, Kawakita) (*Office Action* p.2). Applicant respectfully traverses the rejection.

B. Claims 8-10, 24-26, 35, 52-53, and 66-67 are rejected under 35 U.S.C. §103(a) for obviousness over Kumaki in view of Sebastian and Kawakita, and further in view of U.S. Patent No. 6,420,980 to Ejima (hereinafter, "Ejima") (*Office Action* p.8). Applicant respectfully traverses the rejection.

C. Claims 11, 27, 36, 54, 58, and 68 are rejected under 35 U.S.C. §103(a) for obviousness over Kumaki in view of Sebastian and Kawakita, and further in view of U.S. Patent No. 5,023,869 to Grover et al. (hereinafter, "Grover") (*Office Action* p.9). Applicant respectfully traverses the rejection.

D. Claims 5-6, 15-18, 21-22, 31-34, 45-48, and 61-64 are rejected under 35 U.S.C. §103(a) for obviousness over Kumaki in view of Sebastian and

1 Kawakita, and further in view of U.S. Patent No. 6,345,307 to Booth (hereinafter,
2 "Booth") (*Office Action* p.11). Applicant respectfully traverses the rejection.

3
4 **Claim 1** recites a system comprising:

5 a first device configured to request a data set having a plurality of
6 individual records, the individual records having semantic information to
7 describe data in the data set;

8 a second device configured to receive the request and encode the
9 data set with a compression function to generate an encoded data set, the
10 compression function determined from the semantic information that is
11 common to the individual records in the data set and the encoded data set
12 including the data without the semantic information that is common to the
13 individual records in the data set;

14 the second device further configured to communicate an expansion
15 function to the first device, the expansion function including the semantic
16 information that is common to the individual records in the data set; and

17 the first device further configured to receive the encoded data set and
18 expand the encoded data set with the expansion function, wherein
19 individual records in the encoded data set are expanded to include the
20 common semantic information.

21 Kumaki, Sebastian, and/or Kawakita do not teach or suggest the
22 combination of features recited in claim 1, such as "a compression function to
23 generate an encoded data set, the compression function determined from semantic
24 information that is common to the individual records in the data set and the
25 encoded data set including the data without the semantic information that is
common to the individual records in the data set."

The Office cites Kumaki for compressing data sets and an expansion unit
for expanding the compressed data sets (*Office Action* p.3). Kumaki only

1 describes compressing a single string of byte data, but there is no indication of a
2 compression function determined from semantic information that is common to
3 individual records (i.e., multiple records), as recited in claim 1.

4 Kumaki col.3 describes that a string of byte data is divided into four strings
5 (lines 1-3); that the divided strings are compressed (lines 4-5); that headers are
6 added to the compressed strings (lines 11-15); that the compressed strings are
7 transferred (lines 19-22); that the compressed strings are expanded back into the
8 four divided strings (31-34); and that the divided strings are combined to recover
9 the single uncompressed string of byte data (lines 38-41). The Office
10 acknowledges that Kumaki only describes and shows a single string of byte data in
11 Kumaki Fig. 4 (*Office Action* p.4).

12 Further, there is no indication in Kumaki as to how the divided strings are
13 compressed. The Office recognizes that Kumaki fails to teach a compression
14 function according to information that is common to individual records in a data
15 set, and that Kumaki fails to teach an expansion function having the semantic
16 information that is common to the individual records in the compressed data set
17 (*Office Action* p.3).

18
19 The Office cites to Sebastian for determining a compression function
20 according to the common data types in a data set, and cites to Sebastian claims 19,
21 20, and 49 as well as to the Title, Abstract, and col.2, lines 33-47 (*Office Action*
22 p.5). Applicant respectfully disagrees that any of these sections of Sebastian teach
23 or suggest a “compression function determined from semantic information that is
24 common to the individual records in the data set” where an encoded data set
25

1 includes "the data without the semantic information that is common to the
2 individual records in the data set", as recited in claim 1.

3 Initially, Sebastian does not include a claim 49. Claims 19-20 depend from
4 claim 17 which, in combination, describes that data components of a single source
5 data structure are parsed into blocks. A compression algorithm for each block is
6 determined and then the compressed data components from the blocks are
7 combined to form an encoded data structure. In Sebastian, the encoded data
8 structure includes all of the compressed data components, which is contrary to an
9 encoded data set that includes the data without the semantic information that is
10 common to the individual records in the data set, as recited in claim 1.

11 Similarly, Sebastian describes parsing and compressing the data
12 components from the source data structure, and that the "compressed data from the
13 plurality of blocks are then combined into encoded data" (*Sebastian* col.2, lines
14 28-47). Again, the encoded data described in Sebastian includes all of the
15 compressed data from the source data structure. In similar fashion, Kumaki also
16 compresses all of the divided strings from the string of byte data (*Kumaki* Fig.4).
17 Accordingly, neither Kumaki nor Sebastian teach or suggest a compression
18 function determined from semantic information that is common to individual
19 records, or an encoded data set that includes the data without the semantic
20 information that is common to the individual records in the data set, as recited in
21 claim 1.

22
23 The Office recognizes that both Kumaki and Sebastian fail to teach
24 transmitting an encoded data set along with an expansion function to a destination
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1 device, and expanding the encoded data set using the received expansion function
2 (*Office Action* p.6). The Office then cites to Kawakita for transmitting an encoded
3 data set along with an expansion function to a destination device (*Office Action*
4 p.6).

5 However, Kumaki, Sebastian, and/or Kawakita do not teach or suggest “the
6 expansion function including the semantic information that is common to the
7 individual records in the data set”, as recited in claim 1. Kawakita only describes
8 that the software for decompressing the compressed data is attached to or
9 integrated with the edited and compressed data (*Kawakita* p.2, lines 15-17). There
10 is no indication that the software for decompressing the compressed data in
11 Kawakita includes semantic information common to individual records in a data
12 set, as recited in claim 1.

13 Accordingly, for at least the many reasons described above, claim 1 is
14 allowable over the Kumaki-Sebastian-Kawakita combination, and Applicant
15 respectfully requests that the §103 rejection be withdrawn.

16
17 **Claims 2-9 and 11** are allowable by virtue of their dependency upon
18 independent claim 1 and are allowable over Kumaki, Sebastian, and/or Kawakita
19 for at least the reasons described above in response to the rejection of claim 1.
20 Additionally, some or all of claims 2-4 and 7 may be allowable over the
21 Kumaki-Sebastian-Kawakita combination for independent reasons.

22 **Claims 5-6** are also allowable over the Kumaki-Sebastian-Kawakita-Booth
23 combination because Booth does not address the deficiencies of Kumaki,
24
25

1 Sebastian, and/or Kawakita as described above in the response to the rejection of
2 claim 1.

3 Claims 8-9 are also allowable over the Kumaki-Sebastian-Kawakita-Ejima
4 combination because Ejima does not address the deficiencies of Kumaki,
5 Sebastian, and/or Kawakita as described above in the response to the rejection of
6 claim 1. For example, Ejima does not teach or suggest an expansion function that
7 includes semantic information common to the individual records in the data set, as
8 recited in claim 1.

9 The Office recognizes that Kumaki, Sebastian, and Kawakita do not teach
10 removing information that is common to individual records in a data set, and also
11 do not teach that an encoded data set includes the data without the information or
12 semantic information that is common to the individual records in the data set
13 (*Office Action* p.8). The Office then cites to Ejima for compression encoding by
14 deleting the common information in a data set (*Office Action* p.9). However,
15 Ejima only describes that common redundant bits from analog signals are removed
16 with a common redundant bits deleter (*Ejima* col.5 line 31 to col.6, line 9). The
17 common redundant bits removed from the analog signals in Ejima are not
18 semantic information that describes data in a data set. As such, Ejima does not
19 teach or suggest “the compression function determined from the semantic
20 information that is common to the individual records in the data set” where the
21 semantic information describes data in the data set, as recited in claim 1 (canceled
22 claim 10 has been incorporated into pending claim 1).

23 Claim 11 is also allowable over the Kumaki-Sebastian-Kawakita-Grover
24 combination because Grover does not address the deficiencies of Kumaki,
25

1 Sebastian, and/or Kawakita as described above in the response to the rejection of
2 claim 1.

3 Accordingly, claims 2-9 and 11 are allowable and the §103 rejection should
4 be withdrawn.

5
6 **Claim 12** recites “a compression function determined from semantic
7 information that is common to the individual records in the data set”, “an
8 expansion function that includes the semantic information that is common to the
9 individual records in the data set”, and that “the data set is encoded using the
10 compression function to generate an encoded data set that includes the data
11 without the semantic information that is common to the individual records in the
12 data set”.

13 As described above in the response to the rejection of claim 1, Kumaki only
14 describes compressing a single string of byte data and Sebastian only describes
15 that data components of a single source data structure are parsed into blocks and
16 then compressed. There is no indication in Kumaki or Sebastian of a compression
17 function determined from information that is common to individual records (i.e.,
18 multiple records), as recited in claim 12.

19 Further, Kawakita only describes that the software for decompressing the
20 compressed data is attached to the edited and compressed data. There is no
21 indication that the software for decompressing the compressed data in Kawakita
22 includes semantic information common to individual records in a data set, as
23 recited in claim 12.
24
25

1 Kumaki, Sebastian, and/or Kawakita do not teach or suggest a compression
2 function determined from semantic information that is common to individual
3 records, or an expansion function including the semantic information that is
4 common to the individual records in the data set. Accordingly, claim 12 is
5 allowable over the Kumaki-Sebastian-Kawakita combination, and Applicant
6 respectfully requests that the §103 rejection be withdrawn.

7
8 Claims 13-25 and 27-28 are allowable by virtue of their dependency upon
9 independent claim 12 and are allowable over Kumaki, Sebastian, and/or Kawakita
10 for at least the reasons described above in response to the rejection of claim 12.
11 Additionally, some or all of claims 13-14, 19-20, 23, and 28 may be allowable
12 over the Kumaki-Sebastian-Kawakita combination for independent reasons.

13 Claims 15-18 and 21-22 are also allowable over the Kumaki-Sebastian-
14 Kawakita-Booth combination because Booth does not address the deficiencies of
15 Kumaki, Sebastian, and/or Kawakita as described above in the response to the
16 rejection of claim 12.

17 Claims 24-25 are also allowable over the Kumaki-Sebastian-Kawakita-
18 Booth combination because Ejima does not address the deficiencies of Kumaki,
19 Sebastian, and/or Kawakita as described above in the response to the rejection of
20 claims 8-9 and 12.

21 Claim 27 is also allowable over the Kumaki-Sebastian-Kawakita-Grover
22 combination because Grover does not address the deficiencies of Kumaki,
23 Sebastian, and/or Kawakita as described above in the response to the rejection of
24 claim 12.
25

1 Accordingly, claims 13-25 and 27-28 are allowable and the §103 rejection
2 should be withdrawn.

3
4 **Claim 29** recites “an expansion function that includes semantic information
5 that is common to the individual records in the encoded data set, the semantic
6 information describing the data in each of the individual records”, and that the
7 encoded data set is generated “with a compression function determined from the
8 common semantic information such that the encoded data set includes the data
9 without the semantic information that is common to the individual records in the
10 encoded data set”.

11 As described above in the response to the rejection of claim 1, Kumaki only
12 describes compressing a single string of byte data and Sebastian only describes
13 that data components of a single source data structure are parsed into blocks and
14 then compressed. There is no indication in Kumaki or Sebastian of a compression
15 function determined from common semantic information that is common to the
16 individual records (i.e., multiple records) in the encoded data set, as recited in
17 claim 29.

18 Further, Kawakita only describes that the software for decompressing the
19 compressed data is attached to the edited and compressed data. There is no
20 indication that the software for decompressing the compressed data in Kawakita
21 includes semantic information common to individual records in the encoded data
22 set, as recited in claim 29.

23 Kumaki, Sebastian, and/or Kawakita do not teach or suggest a compression
24 function determined from semantic information that is common to individual
25

1 records, or an expansion function including the semantic information that is
2 common to the individual records in the encoded data set. Accordingly, claim 29
3 is allowable over the Kumaki-Sebastian-Kawakita combination, and Applicant
4 respectfully requests that the §103 rejection be withdrawn.

5
6 **Claims 31-34 and 36-37** are allowable by virtue of their dependency upon
7 claim 29 and are allowable over Kumaki, Sebastian, and/or Kawakita for at least
8 the reasons described above in response to the rejection of claim 29.

9 Claims 31-34 are also allowable over the Kumaki-Sebastian-Kawakita-
10 Booth combination because Booth does not address the deficiencies of Kumaki,
11 Sebastian, and/or Kawakita as described above in the response to the rejection of
12 claim 29.

13 Claim 36 is also allowable over the Kumaki-Sebastian-Kawakita-Grover
14 combination because Grover does not address the deficiencies of Kumaki,
15 Sebastian, and/or Kawakita as described above in the response to the rejection of
16 claim 29.

17 Accordingly, claims 31-34 and 36-37 are allowable and the §103 rejection
18 should be withdrawn.

1 **Claim 38** recites a method comprising:

2 determining a compression function for a data set having a plurality
3 of individual records, the compression function determined from semantic
4 information that is common to the individual records in the data set, the
5 semantic information describing the data in each of the individual records;

6 generating an encoded data set using the compression function by
7 removing the semantic information that is common to the individual
8 records in the data set;

9 determining an expansion function for the encoded data set, the
10 expansion function including the semantic information that is common to
11 the individual records in the data set; and

12 transmitting the expansion function and the encoded data set to a
13 destination device.

14 As described above in the response to the rejection of claim 1, Kumaki only
15 describes compressing a single string of byte data and Sebastian only describes
16 that data components of a single source data structure are parsed into blocks and
17 then compressed. There is no indication in Kumaki or Sebastian of determining a
18 compression function for a data set having a plurality of individual records
19 (i.e., multiple records), as recited in claim 38.

20 Further, Kawakita only describes that the software for decompressing the
21 compressed data is attached to the edited and compressed data. There is no
22 indication that the software for decompressing the compressed data in Kawakita
23 includes semantic information common to individual records in a data set, as
24 recited in claim 38.

25 Kumaki, Sebastian, and/or Kawakita do not teach or suggest a compression
function determined from semantic information that is common to individual

1 records, or an expansion function including the semantic information that is
2 common to the individual records in the data set. Accordingly, claim 38 is
3 allowable over the Kumaki-Sebastian-Kawakita combination, and Applicant
4 respectfully requests that the §103 rejection be withdrawn.

5
6 **Claims 40-41 and 43-55** are allowable by virtue of their dependency upon
7 claim 38 and are allowable over Kumaki, Sebastian, and/or Kawakita for at least
8 the reasons described above in response to the rejection of claim 38. Additionally,
9 some or all of claims 40-41, 43-44, 49-51, and 55 may be allowable over the
10 Kumaki-Sebastian-Kawakita combination for independent reasons.

11 Claims 45-48 are also allowable over the Kumaki-Sebastian-Kawakita-
12 Booth combination because Booth does not address the deficiencies of Kumaki,
13 Sebastian, and/or Kawakita as described above in the response to the rejection of
14 claim 38.

15 Claims 52-53 are also allowable over the Kumaki-Sebastian-Kawakita-
16 Booth combination because Ejima does not address the deficiencies of Kumaki
17 and/or Sebastian as described above in the response to the rejection of claims 8-9
18 and 38.

19 Claim 54 is also allowable over the Kumaki-Sebastian-Kawakita-Grover
20 combination because Grover does not address the deficiencies of Kumaki,
21 Sebastian, and/or Kawakita as described above in the response to the rejection of
22 claim 38.

23 Accordingly, claims 40-41 and 43-55 are allowable and the §103 rejection
24 should be withdrawn.

1 **Claim 56** recites a method comprising:

2 ... a compression function including semantic information that is
3 common to multiple records in the data set, the semantic information
4 describing data of the data set in the multiple records;

5 encoding the data set using the compression function to generate an
6 encoded data set that includes the multiple records without the semantic
7 information that is common to the multiple records in the encoded data set;

8 ... the expansion function including the semantic information that is
9 common to the multiple records in the data set; and ...

10 As described above in the response to the rejection of claim 1, Kumaki only
11 describes compressing a single string of byte data and Sebastian only describes
12 that data components of a single source data structure are parsed into blocks and
13 then compressed. There is no indication in Kumaki or Sebastian of a compression
14 function including semantic information that is common to multiple records in a
15 data set, as recited in claim 56.

16 Further, Kawakita only describes that the software for decompressing the
17 compressed data is attached to the edited and compressed data. There is no
18 indication that the software for decompressing the compressed data in Kawakita
19 includes the semantic information common to the multiple records in the data set,
20 as recited in claim 56.

21 Kumaki, Sebastian, and/or Kawakita do not teach or suggest a compression
22 function that includes semantic information that is common to multiple records, or
23 an expansion function including the semantic information that is common to the
24 multiple records. Accordingly, claim 56 is allowable over the Kumaki-Sebastian-
25 Kawakita combination, and Applicant respectfully requests that the §103 rejection
 be withdrawn.

1
2 Claims 57-69 are allowable by virtue of their dependency upon claim 56
3 and are allowable over Kumaki, Sebastian, and/or Kawakita for at least the reasons
4 described above in response to the rejection of claim 56. Additionally, some or all
5 of claims 57, 59-60, 65, and 69 may be allowable over the Kumaki-Sebastian-
6 Kawakita combination for independent reasons.

7 Claims 58 and 68 are also allowable over the Kumaki-Sebastian-Kawakita-
8 Booth combination because Grover does not address the deficiencies of Kumaki,
9 Sebastian, and/or Kawakita as described above in the response to the rejection of
10 claim 56.

11 Claims 61-64 are also allowable over the Kumaki-Sebastian-Kawakita-
12 Booth combination because Booth does not address the deficiencies of Kumaki,
13 Sebastian, and/or Kawakita as described above in the response to the rejection of
14 claim 56.

15 Claims 66-67 are also allowable over the Kumaki-Sebastian-Kawakita-
16 Booth combination because Ejima does not address the deficiencies of Kumaki,
17 Sebastian, and/or Kawakita as described above in the response to the rejection of
18 claims 8-9 and 56.

19 Accordingly, claims 57-69 are allowable and the §103 rejection should be
20 withdrawn.

Claim 70 recites:

... the compression function including semantic information that is common to multiple records of the plurality of data records, the semantic information describing data in the multiple records;

encoding the multiple records using the compression function to generate a data set that includes the data without the semantic information that is common to the multiple records;

... the expansion function including the semantic information that is common to the multiple records; and ...

As described above in the response to the rejection of claim 1, Kumaki only describes compressing a single string of byte data and Sebastian only describes that data components of a single source data structure are parsed into blocks and then compressed. There is no indication in Kumaki or Sebastian of a compression function including semantic information that is common to multiple records, as recited in claim 70.

Further, Kawakita only describes that the software for decompressing the compressed data is attached to the edited and compressed data. There is no indication that the software for decompressing the compressed data in Kawakita includes semantic information that is common to the multiple records, as recited in claim 70.

Kumaki, Sebastian, and/or Kawakita do not teach or suggest a compression function including semantic information that is common to multiple records, or an expansion function including the semantic information that is common to the multiple records. Accordingly, claim 70 is allowable over the Kumaki-Sebastian-

1 Kawakita combination, and Applicant respectfully requests that the §103 rejection
2 be withdrawn.

3
4 Claim 72 is allowable by virtue of its dependency upon claim 70.
5 Accordingly, claim 72 is allowable and the §103 rejection should be withdrawn.

6
7 Conclusion

8 Pending claims 1-9, 11-25, 27-29, 31-34, 36-38, 40-41, 43-70, and 72 are in
9 condition for allowance. Applicant respectfully requests issuance of the subject
10 application. If any issues remain that preclude issuance of this application, the
11 Examiner is urged to contact the undersigned attorney before issuing a subsequent
12 Action.

13
14 Respectfully Submitted,

15
16 Dated: Feb 1, 2006

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